

What Is Claimed Is:

1. A ceramic member for a centrifugal sintering device, which is a member consisting of a rotor, a shaft or a sample holder to be used in a centrifugal sintering device imparting a centrifugal force field and a temperature field to a molded body of ceramics or metal powder or a ceramic precursor film, wherein the rotor which turns the sample holder, the shaft or the sample holder is composed of ceramics, and wherein these rotor, shaft and sample holder undergo no thermal deformation and are not damaged by thermal stress when subjected to centrifugal force of 10 to 700,000 G under conditions of atmospheric temperatures of 300 to 1200°C.

2. The ceramic member according to Claim 1, wherein the rotor which turns said sample holder and the shaft are composed of silicon nitride or silicon carbide ceramics.

3. The ceramic member according to Claim 1 or 2, wherein the rotor which turns said sample holder is composed of conductive silicon carbide ceramics, and the sample is heated indirectly by selectively causing only the rotor to self heat using induction heating means.

4. The ceramic member according to Claim 1 or 2, wherein said sample holder is composed of a material having

a large dielectric loss, and the sample is heated indirectly by selectively heating only the sample holder using dielectric heating means.

5. The ceramic member according to Claim 4, wherein said sample holder is composed of conductive silicon carbide ceramics.

6. A centrifugal sintering system comprising the ceramic member according to any of Claims 1 through 5 as a constituent element.